SPECIFICATION AMENDMENTS

Amend the descriptive portion of the specification by replacing paragraph **[0008]** as filed with the following new version of paragraph **[0008]**.

[0008] Figures 1 through 3 illustrate the present invention power end seal **10**, and are referred to in this description. The present invention power end seal **10** is designed for, among other purposes, use in [[gear boxes]] gearboxes (not shown) for reciprocating pumps to retain the lubricants used within the [[gear boxes]] gearboxes. Conventional seals used in [[gear boxes]] gearboxes can exhibit special sealing concerns due to high duty cycles, extension rods on pump power ends, and other rod and shaft misalignment in low system pressure applications. The present invention power end seal **10** is a composite seal that optimizes the properties of elastomers, and of plastic or elastomer composite materials. The present invention power end seal **10** is generally formed in the shape [[comprised]] of [[a]] an asymmetrical u-shaped [[U-shaped]], circular seal body **12** having a plurality of arced, [[or]] tangentially-positioned ribs **14** disposed between an inner diameter wall **16** and the outer diameter wall **18**. Further, the present invention power end seal **10** includes an inner diameter dynamic seal **20** consisting of a plastic or elastomer filled composite material and the outer diameter rubber static seal **22**. The plurality of ribs **14** is preferably made of the same elastomer material from which the seal body **12** is comprised. The u-shaped circular seal body **12** is asymmetrical in that the outer diameter wall **18** is longer in length as compared to the inner diameter wall **16**, as observed in an extended length section **18b**. However, each wall **16**, **18** includes an equal length section, **16a**, **18a**, both of which are equal in linear length. The extended length section **18b** extends in length, past the equal length section **18a**. It is within the equal length sections,

16a, 18a, that the ribs **14** are engaged. The extended length section **18b** provides the improvement of providing additional surface area **18b** of the outer diameter static seal **22** to contact and become affixed, or constrained axially, within the packing bore or gland (not shown) to allow for additional flexibility in the movement of the inner diameter dynamic seal **20**. One of the primary benefits of the present invention power end seal **10** is its flexibility to compensate for run-out, or eccentricity. In other words, the power end seal **10** can withstand a large amount of deflection and still maintain static interference in the packing bore (not shown). Another benefit of the present invention power end seal **10** is that it can withstand the above-described deflection while minimizing radial squeeze to reduce heat build up and reduce seal wear. As noted, the inner diameter dynamic seal **20** comprises a filled composite material, wherein one of the ingredients of the composition is either a plastic or an elastomer. Other ingredients of the composition of the seal **20** may, for example, be PTFE, or bronze and PTFE, or carbon and PTFE, or aramid fiber filled HNBR (rubber). Thus, the terms "filled composite," and "filled composite material," each indicates a combination of two or more components, or ingredients, mixed together and made into one homogeneous material. The known natures of the ingredients used herein suggests that they may be so combined, or filled, to form a homogeneous whole by heating a mixture of the ingredients. The resulting seal **20** may, for example, be a filled composite of a plastic and PTFE, or a filled composite of an elastomer and aramid fiber filled HNBR. The term "plastic filled composite" indicates such a composite material wherein one of the ingredients is a plastic. The term "elastomer filled composite" indicates such a composite material wherein one of the ingredients is an elastomer. The inner dynamic seal **20** being comprised of a plastic or elastomer filled composite material, i.e., for example PTFE, bronze filled PTFE, carbon filled

PTFE or aramid fiber filled HNBR (rubber), significantly reduces the wear of the dynamic seal **20** [[of]] affixed to the seal body **12** while maintaining an effective and flexible dynamic seal **20** and static seal **22**. The plurality of tangentially positioned ribs **14** provide flexible tension between the inner wall **16** and outer wall **18** of the power end seal **10** to maintain static interference in the packing gland (not shown), which is especially useful where there is no system pressure in the power ends of the [[gear boxes]] gearboxes (not shown). [[A]] An open, asymmetrical u-shaped channel portion **28** is defined by the space between the inner diameter wall **16** and the outer diameter wall **18**. A seat portion **23** is defined by the external surface of the seal body **12** affixed to and disposed between a lower end of the inner diameter wall portion **16** and a lower end of the outer wall portion **18**. The seat portion **23** is perpendicularly affixed to the wall portions **16**, **18** of the seal body **12**, such that the axial alignment **16x** of the inner wall **16** is generally parallel with respect to the axial alignment **18x** of the outer wall **18**. During the implementation and use of the present invention power end seal **10**, the inner diameter wall **16** and the outer diameter wall **18** remain generally parallel with one another, wherein such alignment obviates the need for a back-up ring or other mating components necessary to combat deflection of seals having tapered or inclined cross sections. The plurality of ribs **14** are tangentially positioned between the inner diameter wall **16** and the outer diameter wall **18** and are attached to a top surface **30** of the channel portion **28**. As best seen in Figure 3, each rib **14** is arched, and the location of its attachment to the inner diameter wall **16** is circumferentially offset relative to the location of the rib's attachment to the outer diameter wall **18** to enhance the flexibility between the two walls **16**, **18** as described. The present invention power end seal **10** can be used in operating temperatures ranging from –20 to 300 degrees F. Various parts of the power end

seal **10** are produced from the processes of compression, injection or [[transfer molded]] transfer-molded elastomer. Adhesion of the inner diameter wall **16** and outer diameter wall **18** is achieved by adhesive bonding in the molding process for dissimilar materials. Similar materials such as elastomer to fiber filled elastomer is generally achieved by the process of co-vulcanization. Thus, the inner diameter dynamic seal **20** is affixed to the inner diameter wall **16** and the seat portion **23** by such co-vulcanization, whether the seal **20** is a plastic filled composite material or an elastomer filled composite material. The use of higher modulus materials for the inner diameter dynamic seal [[surface]] **20**, generally provides that the inner dynamic seal surface **20** does not pull away from the connecting rod (not shown) during operation of the pump (not shown). Rather, diametrical tension causes the inner diameter dynamic seal **20** to travel with the connecting rod (not shown) thus reducing leakage within the [[gear box]] gearbox (not shown). [[The use of plastic of elastomer filled composite material on]] Providing the inner diameter dynamic seal **20** as a plastic filled composite material or an elastomer filled composite material joined to the seal body **12** reduces the footprint or exposure of the higher friction elastomer used to form the seal body **12**. Additionally, the present invention power end seal **10** discloses a plurality of [[various]] lip profiles **24**, **26** at the upper ends of the inner wall **16** and outer wall **18**. Different lip profiles can be formed to the inner wall **16** and outer wall **18** depending upon the specific application for the power end seal **10**. The inner wall **16** and the outer wall **18** are not flat, but rather include lip profiles **24**, **26** which protrude inwardly and outwardly, away from the walls **16**, **18**, respectively. The first lip profile **24** extends radially inwardly from the inner diameter surface of an upper end of the inner wall **16**. The second lip profile **26** extends radially outwardly from the outer diameter surface of an upper end of the outer wall **18**. The lip profiles **24**, **26** are

attached to the present invention power end seal **10** such that the circular, asymmetrical u-shaped seal body **12** includes the first lip profile **24** affixed to the upper end of the of the inner diameter dynamic seal **20** and the second lip profile **26** affixed to the upper end of the extended section **18b** of the outer rubber static seal **22**. The first lip profile **24** protrudes or bulges from the inner diameter dynamic seal surface **20** to make additional sealing contact with the connecting rod (not shown), as the connecting rod engages the inner diameter dynamic seal **20**. The second lip profile **26** protrudes or bulges from the outer diameter rubber static seal surface **22** to make additional sealing contact with the packing bore or gland (not shown). It will be appreciated that these and other embodiments may be provided as a power end seal for use in sealing gearboxes of heavy duty reciprocating pumps. Additional embodiments become readily apparent in view of the present invention as described herein above. Having described the invention above, various modifications of the techniques, procedures and materials will be apparent to those skilled in the art. It is intended that all such variations within the scope and spirit of the appended claims be embraced thereby.